OIPE JC67 MAR 23 2001 PATENT & TRADEMARK OFFICE

IN THE UNITED ATES PATENT AND TRADEMAR OFFICE
BOARD OF PATENT APPEALS AND INTERFERE CES

In re Application of:)
)
Conrad, et al.)
)
Serial No.: 09/207,130)
)
Filed: December 8, 1998)
)
For: METHOD AND SYSTEM FOR)
USING EMULATION OBJECTS)
FOR DEVELOPING POINT OF)
SALE APPLICATIONS)

Examining Attorney: A. Robinson-Boyce

Art Unit: 2765

Docket No.: RA9-98-053
(I062 1350)

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TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION - 37 C.F.R. 1.192)

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the notice of Appeal filed on January 24, 2001.

2. STATUS OF APPLICANT

This application is on behalf of
[X] other than a small entity.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. 1.17(c), the fee for filing the Appeal Brief is
[X] other than a small entity $310.00

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4. FEE PAYMENT
[X] Charge Account No. 50-0563 the sum of $310.00.
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PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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APPEAL BRIEF

Assistant Commissioner for Patents
Box AF
Washington, D.C. 20231

Sir:

This brief is submitted in triplicate pursuant to 37 CFR 1.192 in support of the Appeal in the above-identified application.

REAL PARTY IN INTEREST

The real party in interest in the present application is International Business Machines Corporation, the Assignee in the present application as evidenced by the Assignment recorded at Reel 9639, Frame 0878.

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RELATED APPEALS AND INTERFERENCES

There are no other appeals or inferences known to Applicants, Applicants' legal representative, or Assignee which will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending Appeal.

STATUS OF CLAIMS

Claim 1 – 15 are pending in the application and stand finally rejected by the Examiner as noted in the Office Action mailed August 24, 2000, all rejected claims having been appealed.

STATUS OF AMENDMENTS

Claims 1, 7, 8, 14 and 15 were amended in an amendment filed after final rejection. The Examiner indicated in an Advisory Action mailed January 16, 2001, that the proposed amendments in Applicants' response to the final rejection filed on December 28, 2000, would be entered upon filing of a Notice of Appeal and an Appeal Brief. Claims 1 – 15 reproduced in the Appendix, include the amendments that were made in Applicants' response to the final rejection.

SUMMARY OF THE INVENTION

The present invention is directed to a system and method for developing an application for use with point-of-sale equipment. The application is capable of utilizing attached point-of-sale devices when the application is executed on point-of-sale equipment (p. 3, ll. 1 – 3). An emulation model corresponding to each point-of-sale device is provided by the invention. The emulation modules and the application emulate the interaction between the application and the devices

attached to point-of-sale equipment that occurs when the application is executed on the point-of-sale equipment (p. 3, ll. 12 – 19). A block diagram of an embodiment of a development system 100 in which the present invention operates is depicted in Fig. 3. The development system 100 is used for developing applications for the point-of-sale system 10 (Fig. 1) that includes point-of-sale equipment 20, 30, 40. The development system 100 includes a computer 101 coupled to a display device 120. The computer 101 includes an operating system 102, development tools 104, and the point-of-sale application 15' that is currently being developed in device emulation modules 110, 112 and 114 (p. 9, ll. 10 – 15). The development tools 104 are used to facilitate development of the point-of-sale application 15'. The emulation modules 110, 112, and 114 correspond to the attached point-of-sale devices such as 22, 24, 32, 42, 44, and 46 shown in Fig. 1, which are used by the application 15' when executing on the actual point-of-sale system for which the application is being developed. When the point-of-sale application is run on the development system 100, the emulation objects 110, 112, and 114 make it appear to the application 15' as though the devices 42, 44, and 46, respectively, are present and being used. The emulation modules 110, 112, and 114 emulate both the devices 42, 44, and 46 and the corresponding device drivers 43, 45 and 47 (p. 9, l. 19 – p. 10, l. 5). The emulation modules (objects) 110, 112, and 114 are platform-independent and object-oriented. The emulation objects 110, 112, and 114 make it appear to the application 15' that the application is actually utilizing the specialized devices 42, 44, and 46 such as scales, scanners, and keyboards. When the application 15' is run on the development system 100, the application 15' encounters the emulation objects 110, 112, and 114 that behave as if the application is communicating directly with the devices 42, 44, and 46 (p. 10, ll. 11 – 18).

The method followed by the present invention is illustrated in Fig. 5. The first step in the process is to ensure that the emulation objects 110, 112, and 115 are on the development system 100. In the preferred embodiment, the emulation objects are written in the JAVA programming language; therefore the emulation objects 110, 112, and 114 are platform-independent (p. 11, ll. 15 – 20). In the next step, the emulation objects 110, 112, and 114 are placed higher in the class path than the objects that provide communication with the drivers 43, 45, and 47, respectively for the point-of-sale devices 42, 44, and 46. In the JAVA programming language, applications access devices based on the class of each device. Therefore, a class path defines the order of the locations that a JAVA application will look to in order to find object classes. An object class which is higher in the class path will be located before and accessed in lieu of an object class of the same name that is lower in the class path. Since the emulation objects 110, 112 and 114 are placed higher in the class path than object classes of the same name that provide communication with the real device drivers 43, 45, and 47, the point-of-sale application 15' first locates the emulation objects 110, 112, or 114, when the application 15' is being executed on the development system 100. Thus, the point-of-sale application 15' uses the emulation objects 110, 112, or 114 when it is being executed on the development system 100 (p. 12, ll. 1 – 10). The code for the point-of-sale application 15' is written or modified and then compiled in the next step. The point-of-sale application 15' is then run on the development system 100 for testing. The point-of-sale application 15' uses the emulation objects 110, 112, and 114 when it is being tested. A test is made to determine if the point-of-sale application is functioning adequately on the development system 100. The steps of the process are then repeated until the point-of-sale application does function adequately on the development system 100.

The method to determine if the application is functioning adequately on the development system 100 is depicted in Fig. 6. In the first step of the process, the point-of-sale application 15' enables the emulation objects 110, 112, or 114. The emulation objects then provide a user-interface window on the display device 120 that enables the developer of the application 15' to provide input to the application. The emulation objects 110, 112, or 114 also respond to device-specific commands in the next step. The emulation objects 110, 112, or 114 provide the response expected from the corresponding device 42, 44, or 46 in the next step if the point-of-sale application is functioning properly. The emulation objects 110, 112, or 114 then provide input to the point-of-sale application 15' in the final step of the process. The input is provided in a form expected from the device drivers 43, 45 or 47 corresponding to point-of-sale devices 42, 44, or 46.

ISSUES

1. Are claims 1, 2, 5, 6, 7, 8, 9, 12, 13, 14 and 15 properly rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent Serial No. 5,600,790 of *Barnstijn, et al.* in view of U.S. Patent Serial No. 5,758,124 of *Ogata, et al.*?
2. Are claims 3, 4, 10, and 11 properly rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent Serial No. 5,600,790 of *Barnstijn, et al.*, in view of U.S. Patent No. 5,758,124 of *Ogata, et al.*, and further in view of U.S. Patent No. 5,812,668 of *Weber*?

GROUPING OF CLAIMS

In connection with consideration of the rejection of claims 1 – 15, claims 1, 8 and 14 can be grouped together as one group and stand and fall together. Claims 2 and 9 can be grouped together

as a second group. Claims 5, 6, 12 and 13 can be grouped together as a third group; claims 3, 4, 10 and 11 can be grouped together as a fourth group. Claims 7 and 15 should not be grouped together and each claim should be considered separately.

ARGUMENT

A. The rejection of claims 1, 2, 5, 6, 7, 8, 9, 12, 13, 14 and 15 under 35 USC § 103(a) is improper and should be reversed.

The basic test for non-obvious subject matter is whether the differences between the subject matter and the prior art are such that the claimed subject matter as a whole would not have been obvious to a person having ordinary skill in the art to which the subject matter pertains. The U.S. Supreme Court in Graham v. John Deere & Co., 383 U.S. 1 (1966), set forth the factual inquiries which must be considered in applying the statutory test: (1) determination of the scope and contents of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; and (3) resolving the level of ordinary skill in the pertinent art.

In determining the scope and content of the prior art, the Examiner must first consider the nature of the problem on which the inventor was working. Once this has been established, the Examiner must select, for purposes of comparing and contrasting with the claims at issue, prior art references which are reasonably pertinent to that problem, i.e., the inventors' field of endeavor. Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc., 30 USPQ 2d 1377, 1379 (Fed. Cir. 1994). In selecting references, hindsight must be avoided at all costs.

The second step within the test described in Graham determines that it is necessary to ascertain the differences between the cited prior art and the claims at issue. These differences will

subsequently be discussed in greater detail. In resolving the level of ordinary skill in the pertinent art as required by the third step in Graham, the Examiner must step backward in time and into the shoes worn by a person of ordinary skill when the invention was unknown and just before it was made. The hypothetical person skilled in the art can summarily be described as one who thinks along lines of conventional wisdom in the art and neither one who undertakes to innovate nor one who has the benefit of hindsight. Thus, neither an Examiner, nor a judge, nor a genius in the art at hand, nor even the inventor is such a person skilled in the art.

In order to establish a prima facie case of obviousness, it is necessary for the Examiner to present evidence, preferably in the form of some teaching, suggestion, incentive, or inference in the applied prior art, or in the form of generally available knowledge that one having ordinary skill in the art would have been led to combine the relevant teachings of the applied references in the proposed manner to arrive at the claimed invention. Ex parte Levingood, 28 USPQ 2d 1300, 1301 (Bd. Pat. App. & Int. 1993); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F2d 281, 227 USPQ 657 (Fed. Cir. 1985). The legal conclusion of obviousness must be supported by facts. See, Graham. Where the legal conclusion is not supported by facts, it cannot stand. Id.

A rejection based on 35 USC § 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. The patentability of an invention is not to be viewed with hindsight or "viewed after the event". Goodyear Co. v. Ray-O-Vac, 321 US 275 (1944). The proper inquiry is whether bringing them together was obvious, and not whether one of ordinary skill having the invention before him, would find it obvious through hindsight to construct the invention. Accordingly, an Examiner cannot examine obviousness by locating references which describe various aspects of the patent applicants'

invention without also providing evidence of a motivating force which would enable one skilled in the art to do what the patent applicants' have done.

In order to establish a prima facie case of obviousness under 35 USC § 103, case law states:

> To properly combine the references to reach the conclusion that the subject matter...would have been obvious, case law requires that there must have been some teaching, suggestion, or inference in either reference or both, or knowledge generally available to one of ordinary skill in the art to combine the relevant teaching of the references.

ACS Hospital System, Inc. v. Montefiori Hospital, 221 USPQ 929 (Fed Cir. 1984).

As a result of the foregoing, one skilled in the art at the time the invention was made would not have been able to produce the invention as claimed in the present patent application using the cited prior art. Therefore, the Applicants' respectfully assert that claims 1, 2, 5, 6, 7, 8, 9, 12, 13, 14, and 15 should be allowed over the cited prior art and are not obvious in view thereof in light of the following arguments.

In the Office Action mailed March 15, 2000, the Examiner stated that *Barnstijn, et al.* discloses "a method for developing an application/a method for testing an application/a system for developing an application/at least one program for testing an application (col. 12, ll. 14 – 20; col. 14, ll. 40 – 46); wherein when the application is executed on the development system/executing the application on the development system (col. 10, ll. 54 – 60); executing the application on the point-of-sale equipment (col. 14, ll. 22 – 26); allowing a developer to provide input; and providing the input to the application (col. 3, ll. 22 – 29)". The Examiner further stated that "*Barnstijn, et al.* fails to teach the following, but that *Ogata, et al.* discloses: providing an emulation module (col. 5, ll. 51 – 67); ensuring that the application will utilize/ensuring that the application adequately

utilizes/means for ensuring, wherein the application is capable of utilizing/emulating the interaction (col. 10, ll. 54 – 60)." The Examiner asserted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to "incorporate *Ogata, et al.*'s emulation module into *Barnstijn, et al.*' s system because, in order to make sure that the application being developed can be successfully emulated and executed on the targeted system (which in the Applicants' case is the point-of-sale equipment) one would need an emulation module further including objects for functionality purposes".

In the Office Action mailed August 24, 2000, the Examiner repeated her rejection of claims 1, 2, 5, 6, 7, 8, 9, 12, 13, 14 and 15. The Examiner stated that "the feature of making the target system a point-of-sale system is obvious because both *Barnstijn, et al.* and *Ogata, et al.* disclose systems which are geared toward the design and testing of applications to be implemented on a target machine and *Barnstijn, et al.* does disclose that the target system can be a point-of-sale system."

In light of the test set forth in Graham v. John Deere & Co., the Applicants' respectfully assert that claims 1, 2, 5, 6, 7, 8, 9, 12, 13, 14 and 15 are not obvious under 35 USC § 103(a) over *Barnstijn, et al.* further in view of *Ogata, et al.* In the first step of the Graham test, the scope and content of the prior art references cited by the Examiner must first be evaluated to consider the nature of the problem on which the inventor is working. In view of this requirement, the Applicants respectfully assert that *Barnstijn, et al.* teaches at col. 3, ll. 22 – 47, that "both input and output events are physically executed or initiated using the target system's hardware while one or more applications under development reside and are executed in the host computer development environment." This indicates a teaching that, although the application development is being done

on a host system, it is using actual devices on a target system, through a communications link to test that application. This is further evidenced in claim 1, step (g) wherein the claim recites the step of: "executing, at the target system, the target operating system calls, thereby enabling an interaction with the target input/output devices while the trial application program is tested on said host system. *Ogata, et al.* teaches, "an emulator that operates on an execution computer to execute programs that are designed to operate on a target computer". The target machine in this case is a "computer equipped with an architecture different from the architecture of the executing machine. The emulator further comprises a transfer controller that, when one of the processes in the target machine is called via said jump table, transfers the process to a corresponding one of said function modules in the executing machine prior to the actual onset of processing." (col. 2, ll. 15 – 36).

Applying the second step of the Graham test, *Barnstijn, et al.* fails to teach that all testing and development occur on the same system, thereby creating speed and efficiency in developing an application for point-of-sales equipment as stated in the summary of the invention (p. 3, ll. 13 – 19). The present invention provides an emulation module corresponding to a point-of-sale device on the development system and assures the application will use the emulation module when executed on the development system. *Barnstijn, et al.* fails to teach these steps. *Barnstijn, et al.* actually teaches away from the present invention since it requires the use of a development system that includes a host system and a target system that communicate with each other using a physical communications link. For these reasons, *Barnstijn, et al.* fails to teach or suggest the invention as claimed in claim 1.

The emulator taught by *Ogata, et al.* operates on a target computer that is equipped at a minimum with an operation part, memory and input/output unit, and programs designed for a target

machine, the target machine being a computer equipped with an architecture that is different from the architecture of the executing machine. The emulator taught by *Ogata, et al.* comprises function modules that allow the executing machine to execute processes equivalent to processes that can be called via a jump table in a target machine, and a transfer controller, that, when one of the processes in the target machine is called via said jump table, transfers the process to a corresponding one of the function modules in the executing machine prior to the actual onset of processing (col. 2, ll. 23 – 36). In the present invention, the emulators being created for use with point-of-sale equipment are not the same as those that will be used to emulate a target computer. In order to test the application for use with point-of-sale equipment, the devices that need emulation modules are scanners, scales and keyboards and not that of target computer components taught by *Ogata, et al.* *Ogata, et al.* fails to teach or suggest an inclusion of point-of-sales equipment into the scope of computer emulation for a target computer system.

The Applicants' respectfully assert that neither the *Barnstijn, et al.* patent nor the *Ogata, et al.* patent alone, or in combination disclose, teach, suggest, or infer a system that is wholly contained on a single test system and that is used to test point-of-sale applications for use on point-of-sale equipment wherein an emulation module corresponding to a point-of-sale device is provided on the development system that ensures the point-of-sale application will use the emulation module when executed on the development system. Accordingly, the rejection of claim 1 is not well-founded and should be reversed. Claims 8 and 14 are parallel to claim 1, thus the rejection of these claims is not well-founded and should be reversed as well.

With respect to claim 2, the Examiner stated that *Ogata, et al.* discloses providing an emulation object (col. 5, ll. 51 – 58), where the Examiner is interpreting the 'object' as the 'kernel'.

As noted above, *Ogata, et al.* fails to teach an emulation object corresponding to a point-of-sale device. The rejection of claim 2 is not well-founded and should be reversed. Claim 9 is a system claim that parallels claim 2, thus the rejection of this claim is not well-founded and should be reversed.

With respect to claims 5, 6, 12, and 13, the Examiner stated that *Ogata, et al.* discloses that the point-of-sale equipment includes a driver (col. 1, ll. 46 – 48); wherein the emulation object emulates the driver and the device (col. 10, ll. 17 – 27). The Examiner then asserted that it would have been obvious to one of ordinary skill in the art at the time the invention was made "to include a driver which the emulation object emulates because drivers are needed in order to control the input and output operations of whatever device is being used and in order to emulate the device, one would need to go through the driver first."

Ogata, et al.'s drivers are those that are used to control devices used by a target computer and not that of point-of-sale equipment. There is no need to incorporate drivers necessary for the execution of a personal computer, except that of a keyboard, because the drivers used to emulate point-of-sale equipment in the present invention are for external devices such as scanners and scales and are not those found on a target computer. *Barnstijn, et al.* neither teaches nor suggests a system for testing applications for point-of-sale equipment on a single system and *Ogata, et al.* fails to teach or suggest the emulation of point-of-sale equipment. No motivation is provided to combine these two references. Therefore, the rejections of claims 5, 6, 12 and 13 are not well-founded and should be reversed.

With respect to claim 7, the Examiner stated that *Ogata, et al.* discloses a feature of providing an emulation object corresponding to the device and ensuring that the application utilizes

the emulation object when the application is executed on the development system. The Examiner further stated that this feature is obvious because, when combined with *Barnstijn, et al.,* both references disclose systems which are geared toward the design and testing of applications to be implemented on a target machine. The Examiner further stated that "*Ogata, et al.* discloses that the kernel of the emulation program is loaded upon initialization. *Ogata, et al.* refers to the kernel as a series of procedures within the emulation process that ultimately determines why initialization took place and actually calls execution modules which perform emulation." The Examiner then referred to the Applicant's disclosure on page 10, lines 8 – 9, wherein there is a teaching that the emulation objects can be used to emulate the interaction between the application and specialized devices. The Examiner concluded that the 'kernel' of the emulation program and the emulation object of Applicants' invention both perform the same function simulating the emulation process.

Ogata, et al. discloses a computer emulator for emulating operating system function calls, basic input/output system (BIOS), function calls, basic disk operating system (BDOS) function calls, and interrupt tables of the target machine. As stated at column 5, lines 51 – 62: "The term 'kernel' refers to a series of procedures within the emulation process that, when an exception handling is initiated, performs analysis to determine why the exception routine was initiated and calls execution modules which actually perform emulation via a process called a dispatcher. The term 'dispatcher' refers to a series of procedures within the emulation processes that call the execution modules which actually perform emulation based on the analysis by the 'kernel'. The execution modules are depicted in Fig. 1 of *Ogata, et al.* and are listed in Col. 11, ll. 32 – 41. These emulators include a memory emulator, a mouse emulator, a graphics emulator, a text emulator, a character font emulator, a display emulator, a timer emulator, a keyboard emulator, and

an interim controller emulator. All of these emulators represent execution modules under control of an operating system. There is no indication by the Examiner why one of ordinary skill in the art would use the *Ogata, et al.* reference with the *Barnstijn, et al.* reference to develop a method for testing an application on a development system that is completely independent of the point-of-sale system where the application will ultimately be executed. In the Amendment After Final, claim 7 has been modified to indicate in substep (c) that the application is executed on the development system independently of the point-of-sale system and in the new substep (e) that the application is modified as necessary to ensure that the application utilizes the emulation object on the development system. Therefore, the rejection of claim 7 is not well-founded and should be reversed.

With respect to claim 15, neither *Barnstijn, et al.* nor *Ogata, et al.*, alone or in combination, teach the steps of emulating the interaction between an application and a point-of-sale device, allowing a developer to provide input to the application in a form expected from the point-of-sale device. Therefore, the rejection of claim 15 is not well-founded and should be reversed.

B. The rejection of claims 3, 4, 10, and 11 under 35 USC § 103(a) is improper and should be reversed.

In the Office Action mailed March 16, 2000, the Examiner stated that *Weber* discloses a platform-independent application that is created in the JAVA programming language. She further stated that it would have been obvious to one of ordinary skill in the art to make the application and the emulation object platform-independent because in a computer environment, applications are constantly being changed and depending upon these changes, the platforms also need to be changed

in order to fit the environment. She added that it would have been obvious to make the application and emulation objects JAVA applications because JAVA is a common, distributed programming language that is simple and used for object-oriented programming in the application development art.

In the Office Action mailed August 24, 2000, the Examiner further stated that "the *Weber* invention concerns a merchant-operated computer configuring itself to access a production gateway computer and does so by means of testing and development (configuration) and does disclose platform-independent emulation objects or specifically JAVA emulation objects representing a phsyical device (Col. 7, ll. 11 – 17; Col. 8, ll. 37 – 39). The Examiner further stated that "*Weber* discloses that his invention may be implemented on several different platforms including JAVA, which in turn means that the invention does not rely on or depend on one single platform (platform-independent)." She further stated that "*Weber* discloses that his invention utilizes objects which can represent physical objects such as electrical components."

The *Weber* invention concerns transmission of messages from a merchant-controlled computer representing the test transactions to a test gateway computer on a communications channel. The test gateway computer responds with simulated transaction responses (col. 4, ll. 45 – 54). There is no teaching in *Weber* of platform-independent emulation objects, and specifically, no teaching of a JAVA emulation object where the emulation object represents a physical device such as a scanner, attached to a point of sale system.

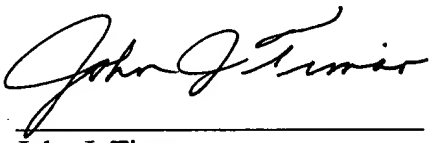
At the lines cited by the Examiner in her August 24, 2000 Office Action, *Weber* teaches that his invention may be implemented on platforms and operating systems other than those mentioned. This is not a teaching that the application itself is platform-independent. It simply indicates that the

invention can be implemented on various platforms and operating systems. *Weber* further teaches that the preferred embodiment can be written using JAVA, C, and the C++ languages and utilizes object-oriented methodology. Thus, there is no teaching in *Weber* that the emulation object is a JAVA emulation object. Accordingly, the rejections of claims 3, 4, 10, and 11 are not well-founded and should be reversed.

CONCLUSION

For the foregoing reasons, the Examiner's rejections of claims 1 – 15 are in error. Reversal of the rejections and allowance of the application is respectfully requested.

Respectfully submitted,



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APPENDIX

1. A method for providing a point of sale environment for developing an application on a development system independently of a point of sale system, the application for use with point of sale equipment having a device, the application capable of utilizing the device when the application is executed on the point of sale equipment, the method comprising the steps of:

    (a) providing an emulation module corresponding to the device; and

    (b) ensuring that the application will utilize the emulation module when the application is executed on the development system; and

    (c) executing the application on the development system independently of the point of sale system, wherein the emulation module and the application emulate the interaction between the application and the device that occurs when the application is executed on the point of sale equipment.

2. The method of claim 1 wherein the step of providing the emulation module further includes the step of:

    (a1) providing an emulation object corresponding to the device.

3. The method of claim 2 wherein the application is platform independent and the emulation object is platform independent.

4. The method of claim 3 wherein the application is a JAVA application and the emulation object is a JAVA emulation object.

5. The method of claim 2 wherein the point of sale equipment includes a driver for controlling the device, the application interfacing with the driver when the application utilizes the device.

6. The method of claim 5 wherein the emulation object emulates the driver and the device.

7. A method for testing an application on a development system independently of a point of sale system, the application for use with point of sale equipment having a device, the application capable of utilizing the device when the application is executed on the point of sale equipment, the method comprising the steps of:

(a) providing an emulation object corresponding to the device;

(b) ensuring that the application will utilize the emulation object when the application is executed on the development system;

(c) executing the application on the development system independently of the point of sale system to emulate the interaction between the application and the device that occurs when the application is executed on the point of sale system;

(d) ensuring that the application adequately utilizes the emulation object; and

(e) modifying the application, as necessary, to ensure that the application utilizes the emulation object on the development system.

8. A system for developing an application for use with point of sale equipment having a device independently of the point of sale equipment, the application capable of utilizing the device when the application is executed on the point of sale equipment, the system comprising:

an emulation module corresponding to the device; and

means for ensuring that the application will utilize the emulation module when the application is executed on the development system;

wherein when the application is executed on the system, the emulation module and the application independently of the point of sale system, emulate the interaction between the application and the device that occurs when the application is executed on the point of sale equipment.

9. The system of claim 8 wherein the emulation module further includes: an emulation object corresponding to the device.

10. The system of claim 9 wherein the application is platform independent and the emulation object is platform independent.

11. The system of claim 10 wherein the application further includes a JAVA application and the emulation object further includes a JAVA emulation object.

12. The system of claim 9 wherein the point of sale equipment includes a driver for controlling the device, the application interfacing with the driver when the application utilizes the device.

13. The system of claim 12 wherein the emulation object emulates the driver.

14. A computer readable medium containing at least one program for testing an application on a development system independently of a point of sale system, the application for use with point of sale equipment having a device, the application capable of utilizing the device when the application is executed on the point of sale equipment, the program containing instructions for:

providing an emulation module corresponding to the device;

wherein the application is capable of utilizing the emulation module in lieu of the device when the application is executed on the development system; and

wherein when the application is executed on the development system, the emulation module and the application emulate the interaction between the application and the device that occurs when the application is executed on the point of sale equipment.

15. A computer readable medium containing at least one program for facilitating development of an application on a development system independently of a point of sale system, the application for use with point of sale equipment having a device, the

application capable of utilizing the device when the application is executed on the point of sale equipment, the program containing instructions for:

emulating the interaction between the application and the device;

allowing a developer to provide input; and

providing the input to the application in a form expected from the device.